

Work Order ID 94598

94598

Page 1

December-19-12 1:04:08 PM

Item ID: D350-748-101

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Crosstube Installation, High Fwd

Start Date: 12/19/12 Start Qty: 1.00

1

Cust Item ID:

Required Date: 1/18/13 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: *PL*

Date: *B-0-2*

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

D350-748-141

100

0.00

100

DOCUMENT CONTROL

DC

Memo

Document Control

Photocopy bluefile & type labels per PP D350-748-101 CHG003

SCRAP

110

0.00

110

BENDING MACHINE - CROSSTUBES

CNC Bend 1

Memo

CNC Delta 100 Bender

Bend tube as per Dwg D350-748-141 using CNC bender program D350F and Folio FT

****UNDER BEND .225" PER SIDE****

****USE (4) DT9824 SHIM BLOC TO CHECK STRAIGHTNESS****

DD 13-1-30

1:57 pm → 4:36 pm

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">Skid-tube <input type="checkbox"/></td> <td style="width: 33%;">Crosstube <input type="checkbox"/></td> <td style="width: 33%;">Water Jet <input type="checkbox"/></td> <td style="width: 33%;">Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data <input type="checkbox"/>									
Equip/Tooling <input type="checkbox"/>									
Operator <input type="checkbox"/>									
Material <input type="checkbox"/>									
Setup <input type="checkbox"/>									
Other <input type="checkbox"/>									
Process <input type="checkbox"/>									
Supplier <input type="checkbox"/>									
Training <input type="checkbox"/>									
Unapproved <input type="checkbox"/>									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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Work Order ID 94598

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Page 2

December-19-12 1:04:08 PM

Item ID: D350-748-101

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Crosstube Installation, High Fwd

Start Date: 12/19/12 Start Qty: 1.00 *1*

Cust Item ID:

Required Date: 1/18/13 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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120 ~~QC13~~ Crosstube Dimensional Check 0.00

120

QC

Quality Control

646

Memo

0.00

USE (4) DT9824 SHIM BLOC TO CHECK STRAIGHTNESS

DAS

16

9-8%

13/2/6

125

125

HandFXtube

Hand Finishing Crosstubes

Memo

0.00

Stress relief

Heat treat crosstube as per QSI010 4.3

Temp: _____

Start time: _____

Finish time: _____

(2013-02-01)

Issue P.O. 18998

CX 13/01/31 (1)

127

127

QC

Quality Control

~~QC15~~ Inspect dimensions to drawing

QC15

Memo

DAS

16

9-8%

0.00

13/2/6

0.00

POSITIVE RECALL

EFFECTIVE 130123 AUTH UP

RELEASED 13.2.6 DATE UP

Eng approval straightening op. at HT

Receive & Inspect
Ensure C of C attached

13/2/6

126

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data									
Equip/Tooling									
Operator									
Material									
Setup									
Other									
Process									
Supplier									
Training									
Unapproved									

FAULT CATEGORY			
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressurè/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other

Work Order ID 94598

94598

Page 3

December-19-12 1:04:08 PM

Item ID: D350-748-101

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Crosstube Installation, High Fwd

Start Date: 12/19/12 Start Qty: 1.00

1

Cust Item ID:

Required Date: 1/18/13 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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130

130

Crosstubes

Crosstubes

Crosstubes

Memo

0.00

0.00

1-Drill Tube as per Dwg D350-748-141 Using DT8876 A,B & C Drill Jigs,
Set-up drill table as per QSI 010

2-Deburr

3-Engrave Part # and Batch # as per Dwg D350-748-141

4-Remove all marks from tube within limits of D350-748-141

5- Apply a light coat of LPS3 on the interior of tube
Batch: _____

MO/Rm 13/02/07

JW 13-02-07

140

140

QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

CHECK 10 DEG HOLES WITH DT8876E (EUROCOPTER CLAMP)

DAS 15 13-2-12

1

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data <input type="checkbox"/>									
Equip/Tooling <input type="checkbox"/>									
Operator <input type="checkbox"/>									
Material <input type="checkbox"/>									
Setup <input type="checkbox"/>									
Other <input type="checkbox"/>									
Process <input type="checkbox"/>									
Supplier <input type="checkbox"/>									
Training <input type="checkbox"/>									
Unapproved <input type="checkbox"/>									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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94598

December-19-12 1:04:08 PM

N900040100

Setup Start *NS1*

Stop *NS2*

Start Date: 12/19/12 **Start Qty:** 1.00 ***1***

Cust Item ID:

Required Date: 1/18/13 **Req'd Qty:** 1.00 *** 1 ***

Customer:

Reference:

Run Start *NR1*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Stop *NR2*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Outsource process-Cadplate per QSI017 4.1.9.1

0.00

150

Outsource3

Memo

0.00

Outsource process - Cad plate

Issue P/O:

Stress relief at 375° for 5 hours
Magnetic Particle Inspect per ASTM E1444
Cadium Plate per AMS-QQ-P-416B, Class 1, Type 2
Embrittle relief at 375° for 8 hours, Chromate Treat
Possible Supplier: Southwest United Industries
Ensure Certificate of Conformity is attached

160

Receive & Inspect for Damage & Mat'l Certs	0.00
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160

Packaging

Memo

0,00

Packaging

Ensure certificate of conformity is attached

170

QC5- Inspect part completeness to step on W/O	0.00
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170

QC

Memo

0.00

Quality Control

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: 13/04/19 Date: 13/04/19QA Closed: 13/04/19 Date: 13/04/19

Work Order: <u>94598</u>	DISPOSITION Rework <input type="checkbox"/> Scrap <input checked="" type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS			
Part No. <u>D350.748.102</u>		Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input checked="" type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>
NCR No. <u>13.2516</u>					

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data				tube cracks at CAD plotting due to stress relief not being performed @ 24 hours from bends.	SPM 13/04/17	(See ncr 13-2390) Scrap + Dsgn. Qty = 1	JW 13-04-17	DAS 16 9-89 13/04/17	DAS 16 9-89 13/03/19
Equip/Tooling									
Operator									
Material									
Setup									
Other									
Process									
Supplier									
Training									
Unapproved									

FAULT CATEGORY

Landing Gear	General
<input type="checkbox"/> Bending	<input type="checkbox"/> Bend
<input type="checkbox"/> Centre Not Concentric to O/S	<input type="checkbox"/> BOM/Route
<input type="checkbox"/> Cracks	<input type="checkbox"/> Broken/Damaged
<input type="checkbox"/> Crushed/Crimped	<input type="checkbox"/> Burrs
<input type="checkbox"/> Cuffs	<input type="checkbox"/> Contamination
<input type="checkbox"/> Heat Treat	<input type="checkbox"/> Countersink
<input type="checkbox"/> Inspection Strip in Tube	<input type="checkbox"/> Cut Too Short
<input type="checkbox"/> Ripples in Bend	<input type="checkbox"/> Drill Holes
<input type="checkbox"/> Torque Waves in Extrusion	<input type="checkbox"/> Drawing
<input type="checkbox"/> Turning Sequence	<input type="checkbox"/> Finish
<input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Folio
	<input type="checkbox"/> Grain
	<input type="checkbox"/> Hardware
	<input type="checkbox"/> Inspection Incomplete
	<input type="checkbox"/> Instructions Incomplete/Unclear
	<input type="checkbox"/> Maintenance
	<input type="checkbox"/> Mislabelled
	<input type="checkbox"/> Misread
	<input type="checkbox"/> Offset
	<input type="checkbox"/> Out of Calibration
	<input type="checkbox"/> Out of Sequence
	<input type="checkbox"/> Outside Dimensions
	<input type="checkbox"/> Ovalized
	<input type="checkbox"/> Over/Under tolerance
	<input type="checkbox"/> Part Incorrect
	<input type="checkbox"/> Part Lost/Missing
	<input type="checkbox"/> Part Moved
	<input type="checkbox"/> Positioned Wrong
	<input type="checkbox"/> Power Loss/Surge
	<input type="checkbox"/> Pressure/Forced
	<input type="checkbox"/> Temperature/Cure
	<input type="checkbox"/> Weld
	<input type="checkbox"/> Wrong Stock Pulled
	<input type="checkbox"/> Other

94598

December-19-12 1:04:08 PM

N900040100

Setup Start *NS1*

Stop *NS2*

Start Date: 12/19/12 **Start Qty:** 1.00 ***1***

Cust Item ID:

Required Date: 1/18/13 **Req'd Qty:** 1.00 *** 1 ***

Customer:

Reference:

Run Start *NR1*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Stop ***NR2***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

**Insp.
Stamp**

0.00

172

Crosstubes

Memo

0.00

Crosstubes

LOAD TEST TO 3500LB FOR 1 MINUTE

174

Outsource process - NDT per QSI038 4.1

0.00

174

Outsource2

Memo

0.00

Outsource process - NDT

176

Receive & Inspect for Damage & Mat'l Certs

0.00

176

Packaging

Memo

0.00

Packaging

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:25%;">Skid-tube <input type="checkbox"/></td> <td style="width:25%;">Crosstube <input type="checkbox"/></td> <td style="width:25%;">Water Jet <input type="checkbox"/></td> <td style="width:25%;">Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
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Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data <input type="checkbox"/>									
Equip/Tooling <input type="checkbox"/>									
Operator <input type="checkbox"/>									
Material <input type="checkbox"/>									
Setup <input type="checkbox"/>									
Other <input type="checkbox"/>									
Process <input type="checkbox"/>									
Supplier <input type="checkbox"/>									
Training <input type="checkbox"/>									
Unapproved <input type="checkbox"/>									

FAULT CATEGORY			
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other

Work Order ID 94598***94598***

Page 6

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Item ID: D350-748-101

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Crosstube Installation, High Fwd

Start Date: 12/19/12 Start Qty: 1.00

1

Cust Item ID:

Required Date: 1/18/13 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
178	QC5- Inspect part completeness to step on W/O	0.00							
178									
QC	Memo	0.00							
Quality Control									
180		0.00							
180	SprayPaint								
SprayPaint	Memo	0.00							
Spray Painting	1-Prime inside crosstube as per QSI 005 4.2 2-Prime Outside of Tube as per Dart QSI 005 4.2								
190	QC14- Inspect Spray Paint	0.00							
190									
QC	Memo	0.00							
Quality Control	Then, Wrap in plastic bag to protect from scratches								

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data <input type="checkbox"/>											
Equip/Tooling <input type="checkbox"/>											
Operator <input type="checkbox"/>											
Material <input type="checkbox"/>											
Setup <input type="checkbox"/>											
Other <input type="checkbox"/>											
Process <input type="checkbox"/>											
Supplier <input type="checkbox"/>											
Training <input type="checkbox"/>											
Unapproved <input type="checkbox"/>											

FAULT CATEGORY									
Landing Gear			General						
<input type="checkbox"/> Bending	<input type="checkbox"/> Bend	<input type="checkbox"/> Grain	<input type="checkbox"/> Ovalized	<input type="checkbox"/> Pressure/Forced					
<input type="checkbox"/> Centre Not Concentric to O/S	<input type="checkbox"/> BOM/Route	<input type="checkbox"/> Hardware	<input type="checkbox"/> Over/Under tolerance	<input type="checkbox"/> Temperature/Cure					
<input type="checkbox"/> Cracks	<input type="checkbox"/> Broken/Damaged	<input type="checkbox"/> Inspection Incomplete	<input type="checkbox"/> Part Incorrect	<input type="checkbox"/> Weld					
<input type="checkbox"/> Crushed/Crimped	<input type="checkbox"/> Burrs	<input type="checkbox"/> Instructions Incomplete/Unclear	<input type="checkbox"/> Part Lost/Missing	<input type="checkbox"/> Wrong Stock Pulled					
<input type="checkbox"/> Cuffs	<input type="checkbox"/> Contamination	<input type="checkbox"/> Maintenance	<input type="checkbox"/> Part Moved						
<input type="checkbox"/> Heat Treat	<input type="checkbox"/> Countersink	<input type="checkbox"/> Mislabeled	<input type="checkbox"/> Positioned Wrong						
<input type="checkbox"/> Inspection Strip in Tube	<input type="checkbox"/> Cut Too Short	<input type="checkbox"/> Misread	<input type="checkbox"/> Power Loss/Surge	<input type="checkbox"/> Other					
<input type="checkbox"/> Ripples in Bend	<input type="checkbox"/> Drill Holes	<input type="checkbox"/> Offset							
<input type="checkbox"/> Torque Waves in Extrusion	<input type="checkbox"/> Drawing	<input type="checkbox"/> Out of Calibration							
<input type="checkbox"/> Turning Sequence	<input type="checkbox"/> Finish	<input type="checkbox"/> Out of Sequence							
<input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Folio	<input type="checkbox"/> Outside Dimensions							

94598

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N900040100

Setup Start *NS1*

Stop *NS2*

Start Date: 12/19/12 **Start Qty:** 1.00 ***1***

Cust Item ID:

Required Date: 1/18/13 **Req'd Qty:** 1.00 *** 1 ***

Customer:

Reference:

Run Start *NR1*

Approvals: _____ **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Stop *NR2*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

200

200

Crosstubes

Crosstubes

Crosstubes

1- Jaskil Ground Wire Insert then screw + washer

1-Abrade mating surfaces of support and crosstube with 400 grit sandpaper, clean the area with 4105S wash 'n wipe

~~2-Install supports with Proseal 890 per DSI9634 and QSI 015
A/R Proseal 890 Batch: _____~~

3-Install supports clamps Using Dt8876 as per Dwg D350-748-141,Torque to 60-80 IN-LBS

er. 2-Instll Abrasive Strip per
drawing B350-740111 & B51035

210

QC5- Inspect part completeness to step on W/O	0.00
---	------

210

QC

Quality Control

Memo	0.00
-------------	------

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data <input type="checkbox"/>									
Equip/Tooling <input type="checkbox"/>									
Operator <input type="checkbox"/>									
Material <input type="checkbox"/>									
Setup <input type="checkbox"/>									
Other <input type="checkbox"/>									
Process <input type="checkbox"/>									
Supplier <input type="checkbox"/>									
Training <input type="checkbox"/>									
Unapproved <input type="checkbox"/>									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge	<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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Work Order ID 94598***94598***

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Item ID: D350-748-101

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Crosstube Installation, High Fwd

Start Date: 12/19/12 Start Qty: 1.00

1

Cust Item ID:

Required Date: 1/18/13 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
220	Pick Kit	0.00							
220									
Packaging	Memo	0.00							
Packaging									
230	QC4- 100% Inspect kits for completeness	0.00							
230									
QC	Memo	0.00							
Quality Control									
240		0.00							
240	Packaging								
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D350-748-101								
	Location: _____								
	PPP Rev: _____								

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="width: 25%;">Skid-tube <input type="checkbox"/></td> <td style="width: 25%;">Crosstube <input type="checkbox"/></td> <td style="width: 25%;">Water Jet <input type="checkbox"/></td> <td style="width: 25%;">Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>						Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>																								
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>																								
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>																								
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																									
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector																		
Doc/Data <input type="checkbox"/>																											
Equip/Tooling <input type="checkbox"/>																											
Operator <input type="checkbox"/>																											
Material <input type="checkbox"/>																											
Setup <input type="checkbox"/>																											
Other <input type="checkbox"/>																											
Process <input type="checkbox"/>																											
Supplier <input type="checkbox"/>																											
Training <input type="checkbox"/>																											
Unapproved <input type="checkbox"/>																											

FAULT CATEGORY			
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other

Work Order ID 94598***94598***

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Item ID: D350-748-101

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Crosstube Installation, High Fwd

Start Date: 12/19/12 Start Qty: 1.00

1

Cust Item ID:

Required Date: 1/18/13 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
250	QC21- Final Inspection - Work Order Release	0.00							
250									
QC	Memo	0.00							
Quality Control									

PB-044

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data <input type="checkbox"/>									
Equip/Tooling <input type="checkbox"/>									
Operator <input type="checkbox"/>									
Material <input type="checkbox"/>									
Setup <input type="checkbox"/>									
Other <input type="checkbox"/>									
Process <input type="checkbox"/>									
Supplier <input type="checkbox"/>									
Training <input type="checkbox"/>									
Unapproved <input type="checkbox"/>									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge	<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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Picklist Print

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Page 1

Work Order ID: 94598

Parent Item: D350-748-101

Parent Item Name: Crosstube Installation, High Fwd

Start Date: 12/19/12

Required Date: 1/18/13

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:A New Issue 06-07-05 JLM
IPP Rev:B Update qty of MS21042L5 06-09-12 KJ VERIFY BY:DD
IPP Rev:C Rev B 07-11-15 DD
IPP Rev D Combined manufacturing 08.04.02 EC verified by: DD
IPP Rev:E 08-06-24 revD as per dwg DD verified by:EC IPP Rev:F 10.08.04 added QSI010
4.3 DD verf:EC
IPP REV:G ADD UNDER BEND COMMENT 12-05-28 JLM IPP REV:H 12.11.05 as per dwg
D350-748-141G DD verf:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
ALS4-1032-225		Purchased	No			200	Each	1,590.0000	1	1			
Insert													

Location	Loc Qty	Loc Code
FP001	1590	
118386	55	
118966	68	
120410	10	
120451	13	
121269	77	
122290	367	
122827	1000	

AN4-41A		Purchased	No			220	Each	420.0000	8	8			
Bolt													

Location	Loc Qty	Loc Code
ST359	89	
123346	89	
ST515	331	
120423	150	
121185	181	

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data <input type="checkbox"/> Equip/Tooling <input type="checkbox"/> Operator <input type="checkbox"/> Material <input type="checkbox"/> Setup <input type="checkbox"/> Other <input type="checkbox"/> Process <input type="checkbox"/> Supplier <input type="checkbox"/> Training <input type="checkbox"/> Unapproved <input type="checkbox"/>											
FAULT CATEGORY											
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube			General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio			<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions			<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other		

Picklist Print

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Page 2

Work Order ID: 94598

Parent Item: D350-748-101

Start Date: 12/19/12

Required Date: 1/18/13

Parent Item Name: Crosstube Installation, High Fwd

Start Qty: 1.00

Required Qty: 1.00

AN4-6A	Purchased	No	220	Each	3,840.0000	16	16
Bolt							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
ST355	340	
123355	340	
ST514	3500	
123355	3500	

AN5-32A	Purchased	No	220	Each	19.0000	4	4
Bolt							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
ST337	19	
123831	19	

AN960JD10	NAS1149D0363J	Purchased	No	200	Each	0.0000	1	1
-----------	---------------	-----------	----	-----	------	--------	---	---

Washer

AN960JD416	NAS1149D0463J	Purchased	No	220	Each	0.0000	32	32
------------	---------------	-----------	----	-----	------	--------	----	----

Washer

AN960JD516	NAS1149D0563J	Purchased	No	220	Each	2.0000	8	8
------------	---------------	-----------	----	-----	------	--------	---	---

Washer

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
ST504	2	
1069059	2	

D3500-1	Manufactured	No	220	Each	107.0000	4	4
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Saddle

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
ST423	107	
85421	27	
86763	26	
88346	22	
89220	12	
90055	12	
90734	8	

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Shop Packet Print

Page 2

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:15%;">Skid-tube <input type="checkbox"/></td> <td style="width:15%;">Crosstube <input type="checkbox"/></td> <td style="width:15%;">Water Jet <input type="checkbox"/></td> <td style="width:15%;">Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>						Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
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Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector																		
Doc/Data <input type="checkbox"/>																											
Equip/Tooling <input type="checkbox"/>																											
Operator <input type="checkbox"/>																											
Material <input type="checkbox"/>																											
Setup <input type="checkbox"/>																											
Other <input type="checkbox"/>																											
Process <input type="checkbox"/>																											
Supplier <input type="checkbox"/>																											
Training <input type="checkbox"/>																											
Unapproved <input type="checkbox"/>																											

FAULT CATEGORY			
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other

Picklist Print

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Page 3

Work Order ID: 94598

Parent Item: D350-748-101

Parent Item Name: Crosstube Installation, High Fwd

Start Date: 12/19/12

Required Date: 1/18/13

Start Qty: 1.00

Required Qty: 1.00

D3501-1 Manufactured No 220 Each 160.0000 16 16
Bushings

Location	Loc Qty	Loc Code
ST043	160	
86913	160	

D3502-1 Manufactured No 200 Each 83.0000 2 2
Support

Location	Loc Qty	Loc Code
LG050	11	
77041	11	
LG051	72	
73419	3	
74873	1	
86876	44	
88465	24	

D350-748-141TRN Manufactured No 110 Each 5.0000 1
Crosstube Turning Detail

Location	Loc Qty	Loc Code
LG014	5	
84661	1	
84663	1	
84664	1	
84665	1	
86272	1	

~~D3595-063-395~~ Manufactured No 200 Each 34.0000 2 2
RUBBER CUSHION

Location	Loc Qty	Loc Code
FG	5	
87353	5	
LG051	29	
87353	17	
88333	12	

D2856-400-710

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Page 3

per lev.f

x 2

B

SAA 13-01-30

384658 ①

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data <input type="checkbox"/>											
Equip/Tooling <input type="checkbox"/>											
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Material <input type="checkbox"/>											
Setup <input type="checkbox"/>											
Other <input type="checkbox"/>											
Process <input type="checkbox"/>											
Supplier <input type="checkbox"/>											
Training <input type="checkbox"/>											
Unapproved <input type="checkbox"/>											

FAULT CATEGORY				
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other	

Picklist Print

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Page 4

Work Order ID: 94598

Parent Item: D350-748-101

Parent Item Name: Crosstube Installation, High Fwd

Start Date: 12/19/12

Required Date: 1/18/13

Start Qty: 1.00

Required Qty: 1.00

MS21042L4 Purchased No 220 Each 5,519.0000 24 24
Nut

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP001	318	
122452	306	
8182	12	
FP-001	12	
8182	12	
GA	231	
121444	231	
ST314	3458	
119017	20	
123021	938	
123248	900	
123355	1600	
ST506	1500	
123900	1500	

MS21042L5 Purchased No 220 Each 1,502.0000 4 4
Nut

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
ST314	802	
108827	4	
116105	1	
116548	43	
119109	20	
121652	16	
122452	706	
2937	12	
ST506	700	
123900	700	

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Page 4

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:15%;">Skid-tube <input type="checkbox"/></td> <td style="width:15%;">Crosstube <input type="checkbox"/></td> <td style="width:15%;">Water Jet <input type="checkbox"/></td> <td style="width:15%;">Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>						Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
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FAULT CATEGORY			
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other

Picklist Print

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Page 5

Work Order ID: 94598

Parent Item: D350-748-101

Parent Item Name: Crosstube Installation, High Fwd

Start Date: 12/19/12

Required Date: 1/18/13

Start Qty: 1.00

Required Qty: 1.00

MS21920-220 Purchased No

200 Each 56.0000 2 2

Clamp(per MIL-DTL-8783C)

per Rev. F

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
LG050	56	
116207	7	
117506	1	
118186	8	
119545	1	
120631	3	
122838	36	

MS27039-1-10 Purchased No

200 Each 309.0000 1 1

Screw

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
GA	100	
120449	100	
ST305	209	
122815	209	

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

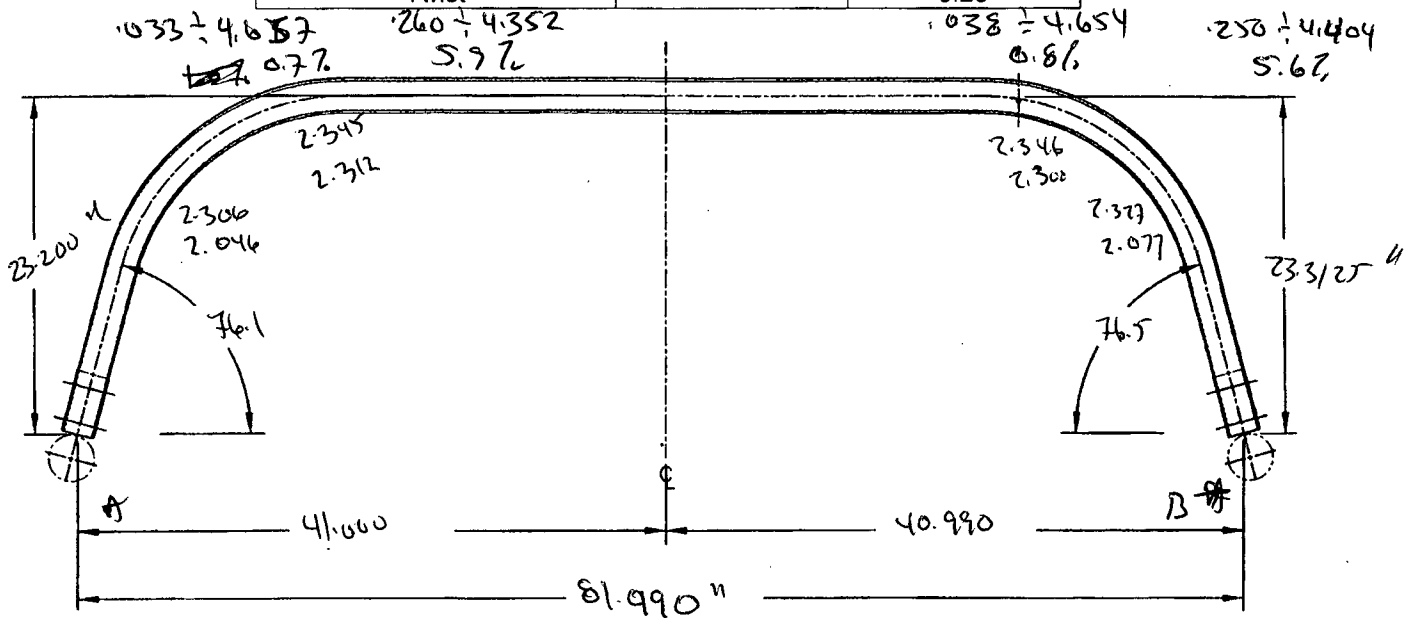
QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
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FAULT CATEGORY			
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks. <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other

DART AEROSPACE LTD		Work Order:	94388
Description: Crosstube High Fwd (AS350/355)		Part Number:	D350-748-101
Inspection Dwg: D350-748-141 Rev: F		Page 1 of 1	

Required Dimension	Min	Max
Height	23.12	23.38
1/2 Span	40.77	41.03
Angle	75	77
Total Span	81.55	82.05
Bending Passes	7	--
Crushing	--	6%
Twist	--	0.25



	Side A	Side B
Bending Passes		
Crushing		
Comments		
Side A: 0.77° at top & 5.97% crush at Bottom		
Side B: 0.81° at top & 5.67% crush at Bottom		
Twist = 0.044"		

QC15 Inspection	DAS
Date	16 13/2/6

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	10.08.23	Dwg Rev updated	KJ	
C	11.11.07	Dwg Rev updated	KJ	
D	12.04.16	Added bending, crushing & twist dimensions	KJ	

Item	Qty -141	Part Number	Description
1	X	D350-748-141	CROSSTUBE ASSEMBLY (AS 350/355 HI FWD)
2	1	D6015-125	CROSSTUBE (OR D6017-115)
3	2	D3502-1	SUPPORT
4	2	D2856-400-710	ABRASION STRIP
5	1	AELS-1032-225	INSERT
6	1	NAS1149D0363J	WASHER (OR AN960JD10)
7	2	MS21920-20	CLAMP (PER DART SPEC. M-MS21920-20)
8	1	MS27039-1-10	SCREW

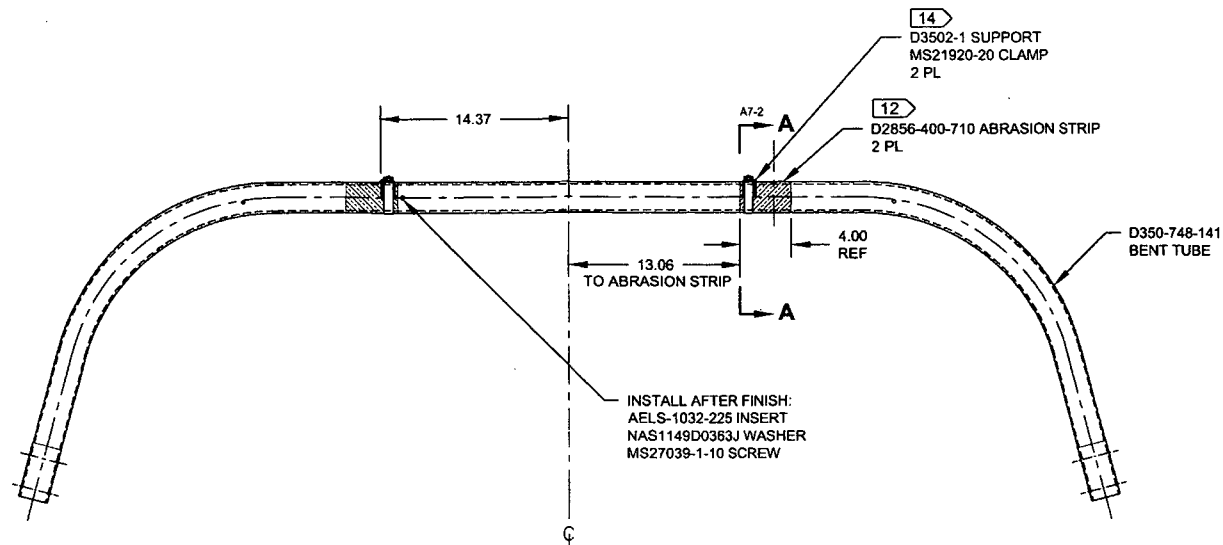
GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6015-125 OR D6017-115
FINISHED LENGTH = 110.270±0.06
- 2) FINISH: MAGNETIC PARTICLE INSPECT PER DART QSI 038 4.2
CADMIUM PLATE PER AMS-QQ-P-416B, CLASS 1, TYPE II
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: DART PART NUMBER 'D350-748-141' AND BATCH NUMBER ON INSIDE OF CUFF
PER DART QSI 044 6.4 (VIBRATING STYLUS)
- 7) WEIGHT: 30.45 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE, EXCEPT FOR Ø0.297 HOLE.
- 9) BLEND OUT ALL EDGES FROM MACHINING LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
NOTE: ALL HOLES ARE DRILLED AFTER BENDING.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 7 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 11) HEAT TREAT TO MIN. 180 KSI PER MIL-T-6736 OR AMS 2759-1C AFTER TURNING. ACCEPTABLE TO VERIFY TENSILE STRENGTH BY HARDNESS TEST PER ASTM E18 TO 40-45 HRC.
- 12) INSTALL D2856-400-710 ABRASION STRIPS WITH A GAP ON BOTTOM SIDE OF CROSSTUBE, CENTERED OPPOSITE D3502-1 SUPPORT, PER QSI 035.
- 13) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE. WHEN DRILLING HOLES EXTREME CARE MUST BE TAKEN AND CAREFUL DEBURRING PERFORMED TO ENSURE A CLEAN HOLE WITH NO CRACKING/CHIPPING/GROOVES.
- 14) TORQUE CLAMPS 60 TO 80 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.
- 15) MAX TWIST AFTER BENDING: WITH XTUBE LAYED FLAT ON SURFACE, THE DIFFERENCE BETWEEN CUFF HEIGHTS FROM THE SURFACE MAY BE NO LARGER THAN 0.25 (ZN C1-3).

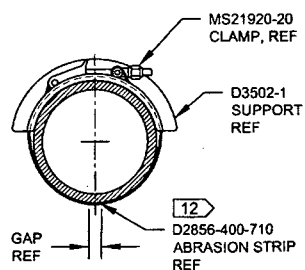
~~UNDER REVIEW~~

RELEASED
2011-01-18

F	ADD HRC TEST OPTION (B8-1) PER PAR 09-040, ADD TWIST LIMIT (A8-1, C1-3), ADD D8015-125 OPTION (C8-1), STOCK DIM NOW MACHINED (D1-4)	CP	10.11.23
E	REVISE GENERAL NOTES; UPDATE TO CURRENT ADD STANDARDS; RELOCATED FLAG #6 PER PAR 08-046 (ZN A6-3); TOLERANCES (ZN C6-3, D1-3)	RF	09.09.30
D	MAG. PARTICLE AND CAD PLATE AS MFD.	CP	06.10.31
C	ADD CAD PLATING	CP	06.08.14
B	ADD D6017-115 & PRIME AND PAINT	CP	06.06.30
A	NEW ISSUE	CP	06.03.31
REV.	DESCRIPTION	BY	DATE
DESIGN	9P	DART AEROSPACE LTD	
DRAWN	9P	HAWKESBURY, ONTARIO, CANADA	
CHECKED	9P	DRAWING NO.	REV. F
MFG. APPR.	9P	D350-748-141	SHEET 1 OF 4
APPROVED	9P	TITLE	SCALE
DE APPR.	9P	CROSSTUBE (AS 350/355 HI FWD)	NTS
DATE	10.11.23	COPYRIGHT © 2006 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



**D350-748-141
ASSEMBLY DETAIL**



**SECTION A-A D4-2
SCALE 4X**

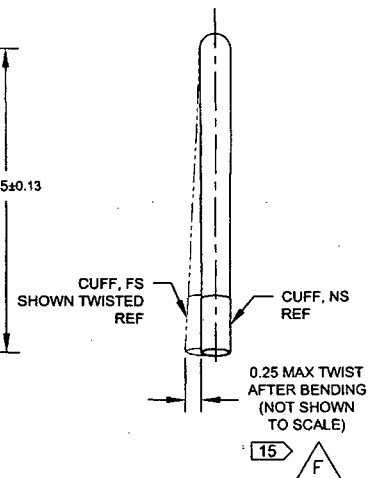
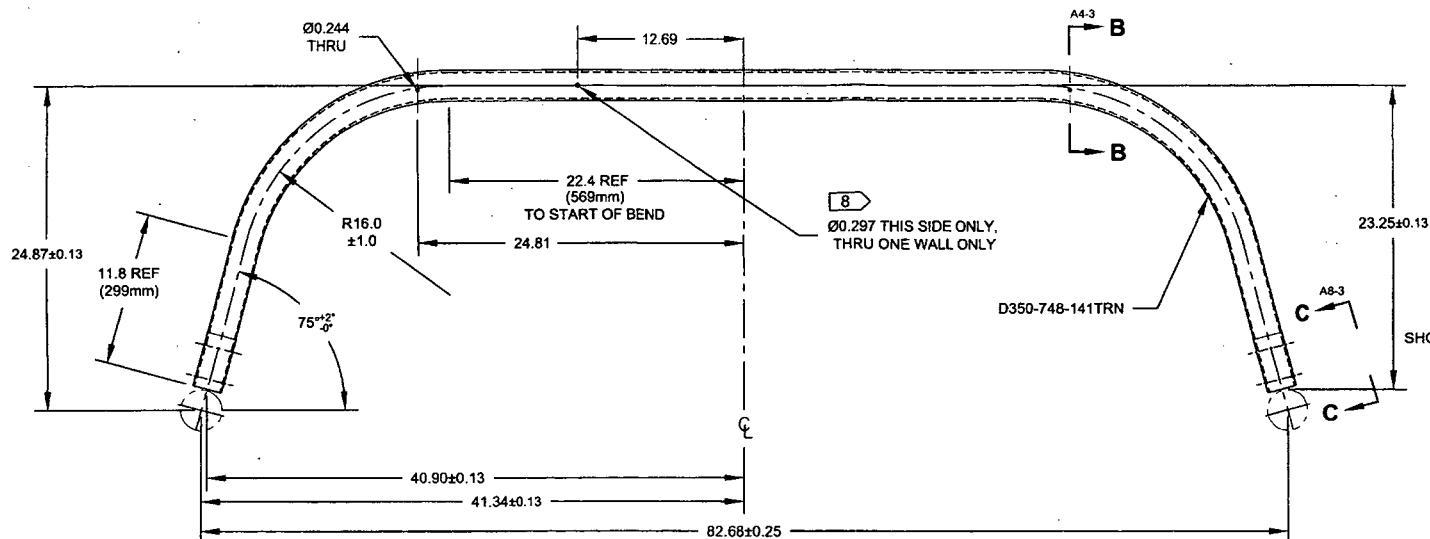
UNDER REVIEW

11.07.11

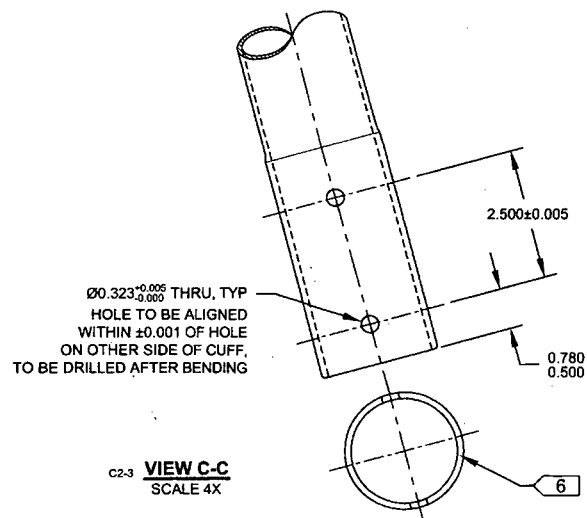
RELEASED
2011-01-30

DESIGN	99	DART AEROSPACE LTD	
DRAWN	99	HAWKESBURY, ONTARIO, CANADA	
CHECKED	99	DRAWING NO.	REV. F
MFG. APPR.	99	D350-748-141	SHEET 2 OF 4
APPROVED	99	TITLE	SCALE
DE APPR.	99	CROSSTUBE (AS 350/355 HI FWD)	NTS
DATE	10.11.23	COPYRIGHT © 2008 BY DART AEROSPACE LTD	
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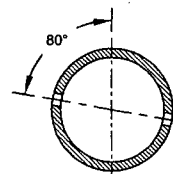
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D350-748-141
BENDING AND DRILLING DETAIL 10



VIEW C-C
SCALE 4X



SECTION B-B D3-3
SCALE 4X

UNDER REVIEW

11.07.12

RELEASED
2011-01-18

DESIGN	DP	DART AEROSPACE LTD	
DRAWN	DP	HAWKESBURY, ONTARIO, CANADA	
CHECKED	B	DRAWING NO.	REV. F
MFG. APPR.	B	D350-748-141	SHEET 3 OF 4
APPROVED	B	TITLE	SCALE
DE APPR.	B	CROSSTUBE (AS 350/355 HI FWD)	NTS
DATE	10.11.23	<small>COPYRIGHT © 2006 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

8 7 6 5 4 3 2 1

8

7

6

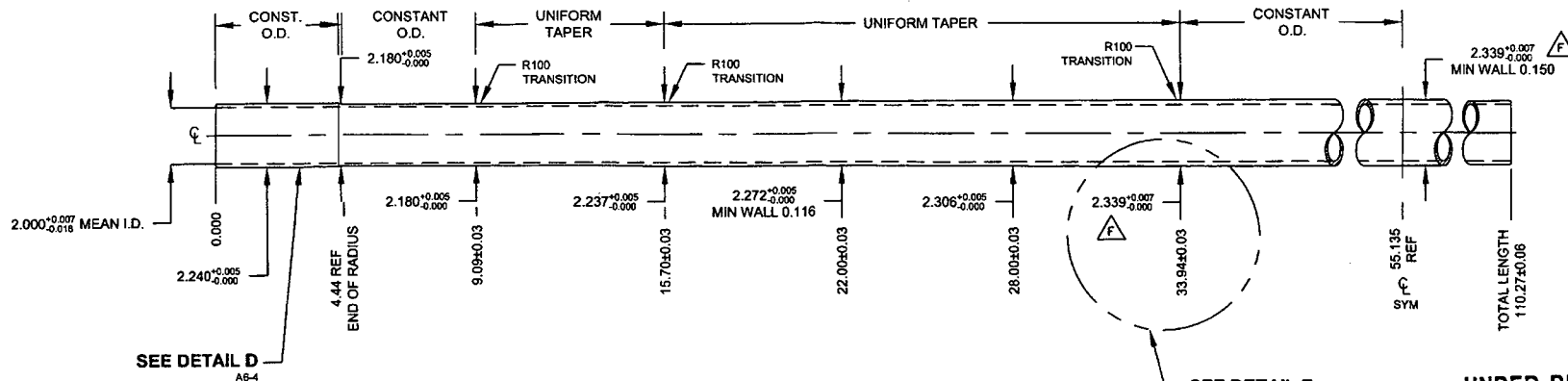
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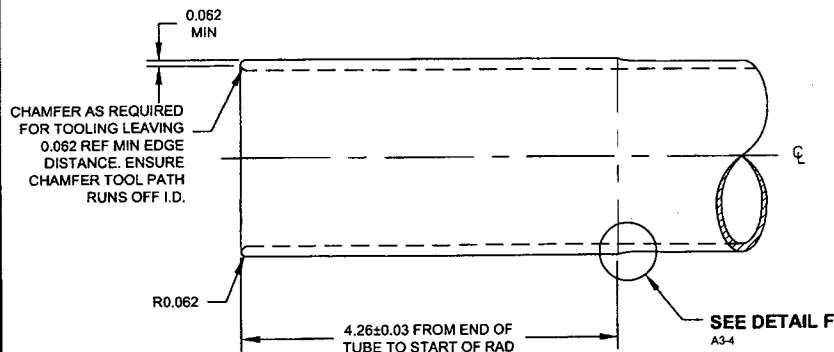
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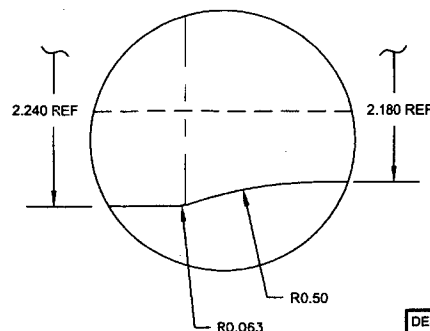
UNDER REVIEW

11.07.12

D350-748-141TRN TURNING DETAIL



DETAIL D:
CROSSTUBE CUFF C7-4
SCALE 3X



DETAIL F:
CUFF TRANSITION A5-4
NOT TO SCALE

RELEASED
2011-01-18

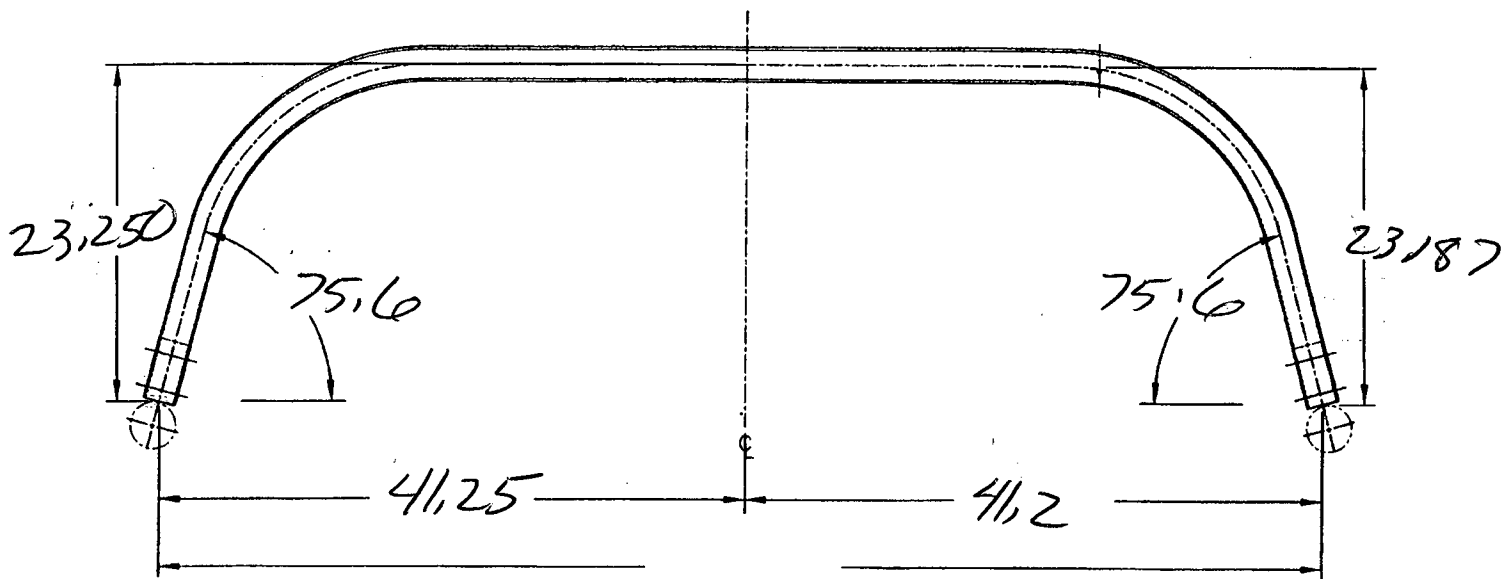
DETAIL E:
TAPER RUN-OFF C3-4
NOT TO SCALE

DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D350-748-141	SHEET 4 OF 4
APPROVED		TITLE	SCALE
DE APPR.		CROSSTUBE (AS 350/355 HI FWD)	NTS
DATE	10.11.23	<small>COPYRIGHT © 2006 BY DART AEROSPACE LTD THIS DOCUMENT IS PROPRIETARY AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMPILED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

Measured Before De-Steps

DART AEROSPACE LTD		Work Order: 94598
Description: Crosstube High Fwd (AS350/355)		Part Number: D350-748-101
Inspection Dwg: D350-748-141	Rev: F	Page 1 of 1

Required Dimension	Min	Max
Height	23.12	23.38
1/2 Span	40.77	41.03
Angle	75	77
Total Span	81.55	82.05
Bending Passes	7	--
Crushing	--	6%
Twist	--	0.25



	Side A	Side B
Bending Passes	38	39
Crushing		
Comments		
TWIST 0.165		

13-130

QC15 Inspection	
Date	

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	10.08.23	Dwg Rev updated	KJ	
C	11.11.07	Dwg Rev updated	KJ	
D	12.04.16	Added bending, crushing & twist dimensions	KJ	

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>				
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector	
Doc/Data										
Equip/Tooling										
Operator										
Material										
Setup										
Other										
Process										
Supplier										
Training										
Unapproved										

FAULT CATEGORY			
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ
ST-EUSTACHE, QC, J7R 5A8

Tel: 450-473-1884 / Fax: 450-491-5498

Certificat de Conformité Détaillé

Detailed Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
183242	1

CLIENT / customer 215

DART AEROSPACE
1270 ABERDEEN
HAWKESBURY

ON K6A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE
1270 ABERDEEN
HAWKESBURY

ON K6A 1K7

1

COMMANDE DU CLIENT customer po	BON DE LIVRAISON DU CLIENT customer shipper no.	MATÉRIEL material	CODE DE TRAITEMENT mat'l heat code	NUMÉRO DE LOT lot number
PO18998				

SPÉCIFICATIONS DU PROCÉDÉ processing specifications

STRESS REL

SAE AMS 2759/1 REV.E

EXIGENCE / requirement	SPÉCIFICATIONS / specified	TESTS EXÉCUTÉS / performed	RÉSULTATS DE TESTS / results
Visual			

QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description
4	120	D350-748-101 CROSSTUBE (1) CROSSTUBE REFERENCE 94598 (1) D350-748-101 CROSSTUBE REFERENCE 94600 (1) D350-748-101 CROSSTUBE REFERENCE 87334 (1) D350-748-101 CROSSTUBE REFERENCE 94599 CONTENANT: 1 NIL

Operation	Temp. spécifiée Specified Temp	Temps de trempé Spécifié Specified Soak Temp	Atmosphère	Carbone Carbon Potential	Q-Media Q-Temp	Four # Furnace #	Date Départ Start Date	Heure d'entrée Time In	Heure de sortie Time Out	Date Complétée Date complete
1.00 CONT. INIT.	LAVAGE		si nécessaire							
2.00 PREPARING	COMPTAGE									

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ
ST-EUSTACHE, QC, J7R 5A8

Tel: 450-473-1884 / Fax: 450-491-5498

Certificat de Conformité Détaillé

Detailed Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
183242	1

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DART AEROSPACE
1270 ABERDEEN
HAWKESBURY

ON K6A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE
1270 ABERDEEN
HAWKESBURY

ON K6A 1K7

1

Operation	Temp. spécifiée Specified Temp	Temps de tremp Spécifié Specified Soak Temp	Atmosphère	Carbone Carbon Potential	Q-Media Q-Temp	Four # Furnace #	Date Départ Start Date	Heure d'entrée Time In	Heure de sortie Time Out	Date Complétée Date complete
3.00 STRESS RE	43°C+/-6°C	2:00	air			701				
4.00 FIN INSPE							02-01-2013			02-01-2013

COMMENTAIRES / comments

LES TRAITEMENTS THERMIQUES SUR CETTE COMMANDE A ÉTÉ FAIT EN UTILISANT DES ÉQUIPEMENTS EN CONFORMITÉ AVEC LES REQUIS DE LA SPÉCIFICATION AMS2759.
TOUTES LES OPÉRATIONS DE TRAITEMENT THERMIQUE ONT ÉTÉ FAITES EN CONFORMITÉ AVEC LES REQUIS DE LA SPÉCIFICATION DEMANDÉE ET TOUTES LES VÉRIFICATIONS ET LES TESTS DEMANDÉES ONT ÉTÉ FAITES ET DOCUMENTÉES.
AUCUN CHANGEMENT OU DÉROGATION N'A ÉTÉ FAITE PAR RAPPORT AU TRAITEMENT THERMIQUE DEMANDÉ.
ON CERTIFIE QUE LE MATÉRIEL A ÉTÉ FABRIQUÉ, ÉCHANTILLONNÉ, TESTÉ ET INSPECTÉ EN ACCORD AVEC LES SPÉCIFICATIONS DU MATÉRIEL ET LE BON DE COMMANDE ET LE MATÉRIEL RENCONTRE LES EXIGENCES SPÉCIFIÉS.

ACCOMPLISHED USING HEAT TREATMENT EQUIPMENT THAT MEETS THE REQUIREMENTS OF AMS 2759. ALL THE HEAT TREATMENT OPERATIONS WERE ACCOMPLISHED IN ACCORDANCE WITH THE REQUESTED/REQUIRED HEAT TREATMENT SPECIFICATION AND ALL REQUIRED VERIFICATIONS TEST HAVE BEEN PERFORMED AND DOCUMENTED. NO UNAUTHORIZED CHANGES OR ALL THE HEAT TREATMENT PROCESSING PERFORMED ON THIS ORDER WAS DEVIATIONS TO REQUIRED HEAT TREATMENT SPECIFICATIONS OR PROCEDURES HAVE BEEN PERFORMED.
WE CERTIFY THAT THE MATERIAL WAS MANUFACTURED, SAMPLED, TESTED AND INSPECTED IN ACCORDANCE WITH THE MATERIAL SPECIFICATION AND THE PURCHASE ORDER AND WAS FOUND TO MEET THE REQUIREMENTS.

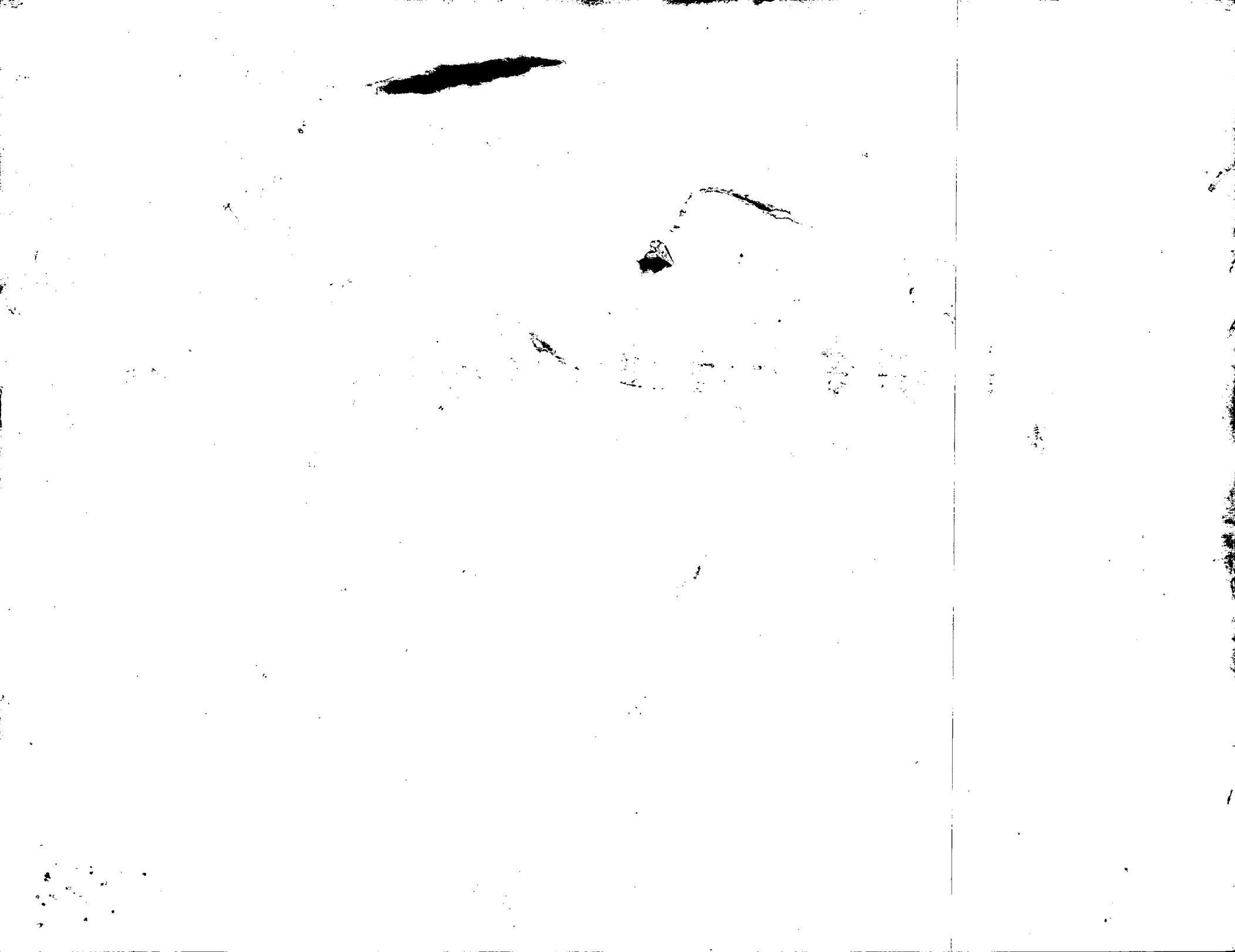
APPROUVÉ par / Approved by:

Isabel Diaz



DATE: 2013-02-01

/ Nous certifions que toute l'information comprise sur ce rapport est exacte et conforme aux requis du client. / We certify that all the information on this report is exact and in accordance with the order requirements.



CADORATH GROUP
NON CONFORMANCE REPORT

CADORATH AEROSPACE ☐

CADORATH DISTRIBUTION ☐

CADORATH COATING ☒

UNIFLYTE ☐

NOTE: THIS FORM MUST BE COMPLETED BY: CUSTOMER ☒ VENDOR ☐ BEFORE PROCESSING OF PART(S)

NCR#: **C1126**

CUSTOMER: ☒ **Dart Aerospace**

DATE: **03/05/13**

VENDOR: ☐ **N/A**

CADORATH/UNIFLYTE P/O #:

N/A

PART DESCRIPTION: **Crosstube**

CADORATH/UNIFLYTE W/O #:

121906, 121910, 121916

CUSTOMER P/O #: **19086**

PART #: **D350-748-101**

SERIAL #: **95051, 94598, 87334**

QUANTITY: **THREE (3)**

PURCHASE ORDER INSTRUCTIONS: **CADMIUM PLATE IAW AMS-QQ-P-416C TYPE 2 YELLOW CLASS 1. MPI IAW ASTM-E-1494.**

DISCREPANCY: **MULTIPLE CRACKS WERE FOUND DURING FIRST MPI ON THREE CROSSTUBES.**

TRAVIS SZABO

CADORATH/UNIFLYTE INSPECTION DEPARTMENT

CUSTOMER: ☒

PLEASE COMPLETE THIS SECTION, SIGN AND RETURN TOP COPY OF THIS FORM TO CADORATH/UNIFLYTE

VENDOR: ☐

DATE: **03/05/13** P/O: **19086**

CUSTOMER INSTRUCTIONS: ☐

ATTENTION: QA-Inspection

VENDOR CORRECTIVE ACTION: ☐

AUTHORIZED SIGNATURE

NAME AND TITLE

DATE: 10/13/10

FORM: OPS 097
REVISION: 3

CADORATH GROUP
NON CONFORMANCE REPORT

CADORATH AEROSPACE ☐
CADORATH COATING ☒

CADORATH DISTRIBUTION ☐
UNIFLYTE ☐

NOTE: THIS FORM MUST BE COMPLETED BY: CUSTOMER ☒ VENDOR ☐ BEFORE PROCESSING OF PART(S)

NCR#: **C1126**

CUSTOMER: ☒ **Dart Aerospace**

DATE: **03/05/13**

VENDOR: ☐ **N/A**

PART DESCRIPTION: **Crosstube**

CUSTOMER P/O #: **19086**

PART #: **D350-748-101**

SERIAL #: **95051, 94598, 87334**

CADORATH/UNIFLYTE P/O #:

N/A

CADORATH/UNIFLYTE W/O #:

121906, 121910, 121916

QUANTITY: **THREE (3)**

PURCHASE ORDER INSTRUCTIONS: **CADMIUM PLATE IAW AMS-QQ-P-416C TYPE 2 YELLOW
CLASS 1. MPI IAW ASTM-E-1444.**

DISCREPANCY: **MULTIPLE CRACKS WERE FOUND DURING FIRST MPI ON THREE
CROSSTUBES.**

TRAVIS SZABO

CADORATH/UNIFLYTE INSPECTION DEPARTMENT

CUSTOMER: ☒

VENDOR: ☐

PLEASE COMPLETE THIS PORTION, SIGN AND RETURN TOP COPY OF THIS FORM TO CADORATH/UNIFLYTE

DATE: **03/05/13**

P/O: **19086**

CUSTOMER INSTRUCTIONS: ☐

VENDOR CORRECTIVE ACTION: ☐

ATTENTION: QA-Inspection

AUTHORIZED SIGNATURE

NAME AND TITLE

DATE: **10/13/10**

FORM: OPS 097
REVISION: 3

Work Order ID	Operation Seq ID	Employee ID	Date	Setup Hrs	Run Hrs	Setup Start Time	Setup Stop Time	Run Start Time	Run Stop Time
94598	110	drou02	1/30/2013	0.0000	2.6814			1:57 PM	4:38 PM
94598	110	paqu03	1/30/2013	0.0000	2.4192			1:57 PM	4:23 PM
94598	130	OUI001	2/7/2013	0.0000	0.291675			9:00 AM	10:10 AM
94598	130	MOUS01	2/7/2013	0.0000	0.291675			9:00 AM	10:10 AM
94598	130	ouim01	2/7/2013	0.0000	0.7239			10:05 AM	10:48 AM
94598	130	mous01	2/7/2013	0.0000	0.7197			10:05 AM	10:48 AM
94598	130	whit01	2/7/2013	0.0000	0.5958			3:42 PM	4:18 PM
				0.0000	7.7234				

Non-Conformance Report

Printed on:

Tuesday, March 19, 2013

Details			
Raised Date 3/19/2013	Status Open	Owner Smith, Patrick Robert	Number NCR13-2390
Target Date 4/1/2013	Standard	Severity MAJOR	
Source Quality Inspection		Audit	
Raised By Person Downing, Eric	Raised Against (Department or Supplier) Metcor Inc.		Fault Category Other\Supplier
Details			
Qty x 3 D350-748-101 cross tubes cracked during cad plaiting. all three tubes were stressed relifed past the 24 hour time of bending.D350-784-101 B94598 was bent on the 2013/01/30 @ 1:57 pm-4:38pm then was stressed relifed @2013/02/01D350-748-101 B95051 was bent on the 2013/01/31 @ 12:42pm-2:08pm then was stressed relifed @2013/02/02D350-748-101 B87334 was bent on the 2013/01/30 @ 1:01pm-1:58pm then was stressed relifed @2013/02/01			
Product D350-748			
Document		Root Cause Supplier	
Closed By	Closed Date	Resolution	

Corrective Action			
Target Date 4/1/2013	Owner Forbes, Nigel	Closed Date	Closed By
Details			

Actions			
Number	Owner	Target Date	Completed Date
Details		Response	
1	Downing, Eric	3/29/2013	13-03-26
scrap all three tubes due to cracking		TW	
2	Downing, Eric	3/29/2013	
inform METCOR of the issue and request a visit from the QC department			
3	Downing, Eric	3/29/2013	
send copy of this NCR to METCOR			

4	Smith, Patrick Robert	3/29/2013	
review all findings			

Verification & Review

Target Date	Owner	Closed Date	Closed By
3/23/2013			
Details			

Actions

Number	Owner	Target Date	Completed Date
Details		Response	